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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DOTE, JANIS L	

ART UNIT	PAPER NUMBER
1756	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,689	FIELDS ET AL.	
	Examiner	Art Unit	
	Janis L. Dote	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4-7,9-11,13-20,22-30,32,33,35,36,38-41,45 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 4-7,9-11,13-20,22-27,30,32,33,35,36,38-41,45, and 46,* is/are rejected.

7)☒ Claim(s) *28 and 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 October 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The examiner acknowledges the amendment to claim 30 set forth in the amendment filed on Nov. 23, 2005. Claims 2, 4-7, 9-11, 13-20, 22-30, 32, 33, 35, 36, 38-41, 45, and 46 are pending.

2. The office action summary sheets mailed on Aug. 19, 2005, Feb. 23, 2005, and Mar. 30, 2004, incorrectly indicated that the drawings filed on Jun. 13, 2001, were acceptable by the examiner. The drawings filed on Jun. 13, 2001, were replaced by the formal drawings filed on Oct. 5, 2001. The office action summary sheet mailed with this office action correctly indicates that the drawings filed on Oct. 5, 2001, are not acceptable by the examiner for the reasons discussed infra.

3. The drawings are objected to because the drawings in Figs. 7 and 8 filed on Oct. 5, 2001, do not identify the y-axis of the graphs. See the originally filed drawings in Figs. 7 and 8 filed on Jun. 13, 2001, which label the y-axis as "charge/mass (μC/g)."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The term "2'/10' MECCA charge ratio" is defined as the ratio of the level of charge obtained after 2 minutes of charging the toner to the level of charge obtained after 10 minutes of charging, where the charge is determined in a MECCA device. See the instant specification, page 19, lines 15-21, and page 22, lines 1-15.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 4, 17, 30, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written

description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 30 and claims 4, 17, and 35, which depend from claim 30, recite that the toner particles have a "charge rate such that the 2'/10' MECCA charge ratio is from about 0.9 to about 1.1, and a 2 minute charge level of from -20 to about -30 μC/g as measured after combination with a carrier comprising a mixture of polyvinylidiene and polymethylmethacrylate."

The originally filed specification does not provide an adequate written description of the carrier recited in the instant claims. The originally filed specification at page 15, lines 6-15, discloses hard magnetic carrier particles that may be optionally coated with resin materials, such as a preferred polymer coating of polyvinylidiene resin and polymethylmethacrylate. The originally filed specification exemplifies carriers comprising hard magnetic $SrFe_{12}O_{19}$ cores having a "volume median" size of 25-20 microns coated with particular blends of polyvinylidene/polymethylmethacrylate. See the originally filed specification, page 24, lines 4-7, and Table 2 at page 25, examples 2-4. The "carrier comprising a

mixture of polyvinylidiene resin and polymethylmethacrylate" recited in instant claim 30 is broader than the carrier disclosed in the originally filed specification because it encompasses carriers that do not comprise hard magnetic cores. It also encompasses carriers where the mixture of polyvinylidiene resin and polymethylmethacrylate is used other than in the carrier coating, e.g., as a binder resin in the core of the carrier.

Applicants assert that the specification at page 15, lines 5-15, and at page 25, Table 2, provide support for the carrier recited in instant claim 30. However, for the reasons discussed above, the disclosure at said cites do not provide an adequate written description for the carrier recited in instant claim 30.

7. The reference US 6,692,880 B2 (Fields'880) has an effective filing date of May 14, 2001, which is before the filing date of Jun. 13, 2001, of the instant application. The disclosure cited in Fields'880 has antecedent basis in the US provisional application No. 60/290,707 in the paragraph bridging pages 11 and 12, and at pages 2, 12, 14 and 21-23.

8. The indicated allowability of the subject matter recited in instant claims 25-27 is withdrawn on further review of US 6,692,880 B2 (Fields'880). Rejections based on Fields'880 are set forth infra.

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 4, 17, 30 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,692,880 B2 (Fields'880), as evidenced by the US provisional application 60/290,707 (Application'707), and applicants' admission in Table 3 of the instant specification.

Fields'880 exemplifies a developer comprising a magnetic carrier and toner particles. The toner particles comprise 88.9 wt% of a crosslinked styrene-butylacrylate copolymer associated with the tradename SB77XL, produced by Eastman Kodak, 6.2 wt% of carbon black, 1.5 wt% of an organo iron complex charge control agent associated with the tradename T77, and 2.0 wt% of a polyethylene wax. The toner particles are surface treated with 0.10 wt% of hydrophobic silica associated with the tradename R972 silica, obtained from Nippon Aerosil. See Fields'880, col. 12, lines 10-20 and 45-51, and Table 3 at

col. 13, example 8; and Application'707, page 21, lines 10-13, page 22, lines 13-16, and Table 3 at page 23, example 8. After mixing the toner particles with the magnetic carrier for 2 minutes, the toner particles had a MECCA charge to mass ratio (Q/m) of -27.0 μC/g, which is within the numerical range of -20 to about -30 μC/g recited in instant claim 30. After mixing the toner particles with the magnetic carrier for 10 minutes, the toner particles had a MECCA Q/m of -37.0 μC/g. The charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes is 0.73. Fields'880, col. 12, lines 57-63, and Table 3, example 8. Application'707, paragraph bridging pages 22 and 23, and Table 3, example 8.

The Fields'880 charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes of 0.73 meets the lower limit, "about 0.9," in the range "about 0.9 to about 1.1" recited in instant claim 30. The term "about" admits variation. There is no evidence on the present record showing that the charge ratio "about 0.9" is patentably distinct from the Fields'880 charge ratio of 0.73.

Fields'880 does not identify the magnetic carrier used to determine the charge to mass ratio at 2 minutes and the charge ratio 2'/10' as a carrier that comprises a mixture of polyvinylidiene and polymethylmethacrylate. However, as discussed above, the Fields'880 toner particles meet the

compositional limitations recited in the instant claims. The Fields'880 charge to mass ratio at 2 minutes is within the numerical range of -20 to about -30 μC/g recited in instant claim 30. The Fields'880 charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes of 0.73 meets the range "about 0.9 to about 1.1" recited in instant claim 30. Furthermore, Fields'880 teaches that its toner particles have stable triboelectric properties. Fields'880, col. 1, lines 34-37; and Application'707, page 2, lines 22-23. That property is the property sought by applicants. The instant specification shows that when the toner particles comprise surface treating silica particles, the toner particles exhibit a 2 minute charge level and a 2'/10' MECCA charge ratio that are within the ranges recited in instant claim 30. See Table 3 in the instant specification, examples 2-4. Accordingly, because the Fields'880 toner particles meet the compositional limitations recited in the instant claims, because the Fields'880 toner exhibits a charge to mass (Q/m) ratio at 2 minutes and a charge ratio 2'/10' having values that meet the numerical ranges of the Q/m at 2 minutes and of the charge ratio 2'/10' recited in the instant claims, and because Fields'880 teaches that its toner particles have stable triboelectric properties, it is reasonable to presume that the Fields'880 toner particles have a 2 minute

charge to mass ratio and a 2'/10' MECCA charge ratio when measured with the carrier recited in the instant claim 30. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

11. Claims 2, 5-7, 14, 16, 23, 25-27, 32, 33, 36, 38-41, 45, and 46 are rejected under 35 U.S.C. 102(e) as anticipated by Fields'880, as evidenced by: (1) Application'707; (2) the KODAK Material Safety Data Sheet for the product SB77XL DRY, revised on Dec. 08, 2004; (3) ACS File registry number 7631-86-9; and (4) applicants' admission at page 3, lines 13-15, and page 3, line 21, to page 4, line 8, and in Table 1 at page 22 of the instant specification (applicants' admission II).

Fields'880, as evidenced by Application'707, teaches a developer as described in paragraph 10 above, which is incorporated herein by reference.

The Fields'880 amount of 88.9 wt% of the crosslinked styrene-acrylate copolymer associated with the tradename SB77XL, produced by Eastman Kodak, is within the range of "about 80 wt% to about 95 wt%" recited in instant claim 33, which depends on independent claim 40. The amount of 88.9 wt% meets the amount of "about 90 wt%" recited in instant claim 14, which depends on

independent claim 46. The term "about" admits variation. There is no evidence on the present record showing that the amount of "about 90 wt%" recited in instant claim 14 is patentably distinct from the Fields'880 amount of 88.9 wt%. The Fields'880 amount of 1.5 wt% of the organo iron complex charge control agent associated with the tradename T77 is within the range of "about 1 wt% to about 2.5 wt%" recited in instant claim 33. The amount of 1.5 wt% of the organo iron complex charge control agent meets the amount of "about 1.8 wt%" recited in instant claim 14. There is no evidence on the present record showing that the amount of "about 1.8 wt%" is patentably distinct from the Fields'880 amount of 1.5 wt%. The Fields'880 amount of 0.10 wt% of the hydrophobic silica is within the ranges of "about 0.05 wt% to about 5.0 wt%" recited in instant claim 33. The amount of 0.10 wt% meets the amount of "about 0.2 wt%" recited in instant claim 14. There is no evidence on the present record showing that the amount of "about 0.2 wt%" is patentably distinct from the Fields'880 amount of 0.10 wt%. See Fields'880, col. 12, lines 10-20, and Table 3 at col. 13, example 8; and Application'707, page 21, lines 10-13, and Table 3 at page 23, example 8.

As discussed in paragraph 10 above, the Fields'880 toner particles in example 8 had a 2 minute MECCA charge to mass ratio

(Q/m) of -27.0 μC/g, which is within the range of -20 to about -30 μC/g recited in instant claims 40 and 46. After mixing the toner particles with the magnetic carrier for 10 minutes, the toner particles had a MECCA Q/m of -37.0 μC/g. The charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes is 0.73. Fields'880, col. 12, lines 57-63, and Table 3, example 8; and Application'707, paragraph bridging pages 22 and 23, and Table 3, example 8. The Fields'880 charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes of 0.73 meets the lower limit, "about 0.9," in the range "about 0.9 to about 1.1" recited in instant claims 40 and 46. The term "about" admits variation. There is no evidence on the present record showing that the charge ratio "about 0.9" is patentably distinct from the Fields'880 charge ratio of 0.73.

The examiner notes that independent claims 40 and 46 do not require that the 2 minute charge to mass ratio (Q/m) and the 2'/10' charge ratio be determined with a carrier comprising polyvinylidiene and polymethylmethacrylate as recited in instant claim 30. The discussion regarding the Q/m ratios, the 2'/10' charge ratio and particular carrier recited in instant claim 30 is not applicable to the instant claims in this rejection.

Fields'880 does not expressly disclose that its toner binder resin comprises silica or colloidal silica as recited in

instant claims 40 and 46, and in claim 32, which depends from claim 40. However, as discussed above, the Fields'880 toner particles meet the compositional limitations recited in the instant claims, but for the disclosure that the toner resin comprises silica or colloidal silica. For the reasons discussed above, the Fields'880 toner particles meet the charge properties recited in the instant claims. In addition, Fields'880 discloses that the toner particles have "stable triboelectric properties." Fields'880, col. 1, lines 34-37; and Application'707, page 2, lines 22-23. That property is the property sought by applicants. The instant application teaches that the presence of colloidal silica or silica particles in the toner resin leads to toner "stable triboelectric charge levels independent of relative humidity and which are consistent over time" (page 3, lines 13-15, and page 3, line 21, to page 4, line 8, of the instant specification). Furthermore, the Fields'880 toner resin comprises the crosslinked styrene-acrylate copolymer associated with the tradename SB77XL produced by Eastman Kodak, which is the same tradename/toner binder resin used in the inventive examples of the instant specification. The instant specification does not explicitly identify the source of the colloidal silica or silica in the toner particles exemplified in the inventive examples. See the instant

specification, Table 1 at page 22. The KODAK Material Safety Data sheet (MSDS) for the product SB77XL states that the product comprises silica, which is identified with the CAS-No 7631-86-9. The ACS file registry number 7631-86-9 states that another name for silica is "colloidal silica." See page 8 of the ACS File registry number 7631-86-9 printout. Although the MSDS has a revision date of Dec. 8, 2004, which is after the filing date of Fields'880, the product SB77XL was utilized in Fields'880, which has an effective filing date of May 14, 2001, and in the instant specification which has a filing date of Jun. 13, 2001. When, as here, the inventive examples in the instant specification, which are said to have all of the properties required of the claimed composition, are silent as to the origin of the particular colloidal silica or silica, but share a common component with at least one of the references, i.e., SB77XL, an Eastman Kodak resin, the presumption becomes strong that the toner binder resin is the source of the "missing component," in this case, the colloidal silica or silica. Surely, applicants are in the best position to identify the source of the colloidal silica or silica in their inventive examples. Moreover, because the toner binder resin in the reference is an Eastman Kodak material and because the reference also shares common inventors with the instant application, applicants are also in the best

position to verify the presence (or absence) of colloidal silica or silica in the toner binder resin of the reference.

Thus, based on the above facts, it is reasonable to presume that the toner particles in example 8 of Fields'880 comprise the silica or colloidal silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Finally, Fields'880 teaches that the magnetic carrier can comprise preferably strontium ferrite particles coated with a polymeric coating. Fields'880, col. 6, lines 47-57, and col. 8, lines 14-25; and Application'707, page 12, lines 2-4, and page 14, lines 7-13. Thus, the Fields'880 magnetic carrier meets the carrier compositional limitations recited in instant claims 25-27.

12. Claims 9-11, 13, 15, 18-20, 22, and 24 are rejected under 35 U.S.C. 102(e) as anticipated by Fields'880, as evidenced by: (1) Application'707; (2) the KODAK Material Safety Data Sheet for the product SB77XL DRY, revised on Dec. 08, 2004; (3) ACS File registry number 7631-86-9; and (4) applicants' admission II.

Fields'880, as evidenced by Application'707, the other cited references, and applicants' admission II, discloses a

developer as described in paragraph 11 above, which is incorporated herein by reference.

The Fields'880 amount of the polyethylene wax, 2.0 wt%, is within the range of "about 0.1 wt% to about 10 wt%" based on the weight of the toner particles recited in instant claims 13 and 22. The amount of 2.0 wt% meets the limitation "about 1.8 wt%" recited in instant claims 15 and 24. There is no evidence on the present record showing that the amount of "about 1.8 wt%" is patentably distinct from the Fields'880 amount of 2.0 wt%.

For the reasons discussed in paragraph 11, supra, it is reasonable to presume that the toner particles in example 8 of Fields'880 comprise the silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Claims 9-11, 13, 15, 18-20, 22, and 24 are written in product-by-process format. Fields'880 does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited coalescence" process as recited in the instant claims. However, as discussed above, the Fields'880 copolymer meets the compositional limitations recited in the instant claims. Accordingly, the Fields'880 copolymer appears to be the same or substantially the same as the toner resin made by the "limited

coalescence" process recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

13. Applicants' arguments filed on Nov. 23, 2005, with respect to the rejections set forth in paragraphs 10-12 above have been fully considered but they are not persuasive.

Applicants assert that Fields'880 2'/10' MECCA charge ratio of 0.73 is clearly outside the range of "about 0.9 to about 1.1" as recited in instant claims 30, 40, and 46. Applicants assert that there is a wide discrepancy between 0.73 and 0.9. Applicants assert that "[a]s known to those in the scientific and mathematical arts, the degree of uncertainty of a number is equal to that of the smallest reported digit. That is 'about 0.9' means 0.9 $\pm$ 0.1, which provides a maximum lower limit of 0.8."

Applicants' assertion that "'about 0.9' means 0.9 $\pm$ 0.1" is mere attorney argument that is not supported by any evidence of record. The instant specification does not define the term "about 0.9." The term "about" admits variation. Applicants also acknowledge that the "term 'about' has some uncertainty." See the response filed on Nov. 23, 2005, page 8, line 23. The

degree of variation admitted by the term "about" is based on physical properties, not numerology. There is no objective evidence on the present record showing that a charge ratio of "about 0.9" results in a composition that is patentably distinct from the Fields'880 ratio of 0.73. Accordingly, the rejections in paragraphs 10-12 stand.

With respect to the rejections in paragraphs 11 and 12 above, applicants further assert that the Fields'880 amount of 1.5 wt% of the organo iron complex charge agent is outside the range of "about 1.8 wt%" recited in instant dependent claim 14.

However, for the reasons discussed in paragraph 11 above, the Fields'880 amount of 1.5 wt% meets the amount "about 1.8 wt%" recited in instant claim 14. Applicants have not explained why toners having 1.5 wt% of the organo iron charge agent differ in a patentably distinct way from toners having "about 1.8 wt%" of the charge agent. Accordingly, the rejections in paragraphs 11 and 12 stand.

With respect to the rejections in paragraphs 11 and 12 above, applicants further assert that because the claimed composition and features of the toner particles are not met by Fields'880, it is not reasonable to presume that the toner resin in Fields'880 includes silica or colloidal silica without an express indication to the contrary.

Applicants' assertions are not persuasive. For the reasons discussed in paragraphs 11 and 12 above, it is reasonable to presume that the Fields'880 toner resin associated with the tradename SB77XL from Eastman Kodak comprises silica or colloidal silica as recited in instant claim 40 and claims 32 and 46, respectively. As discussed in the rejection in paragraph 11 above, the toner resin associated with the tradename SB77XL is the same resin used in the toners exemplified in the inventive examples in the instant specification. The KODAK Material Safety Data Sheet states that the product SB77XL comprises silica, which is identified by the CAS No. 7631-86-9. The ACS File registry number 7631-86-9 states number that silica is also known as "colloidal silica." When, as here, the inventive examples in the instant specification, which are said to have all of the properties required of the claimed composition, are silent as to the origin of the particular colloidal silica or silica, but share a common component with at least one of the references, i.e., SB77XL, an Eastman Kodak resin, the presumption becomes strong that the toner binder resin is the source of the "missing component," i.e., the colloidal silica or silica. The USPTO is not in a position to conduct tests of prior art disclosures. As discussed in paragraph 11 above, Fields'880 shares common

inventors with the instant application. The product SB77XL is produced by Eastman Kodak, which is listed as an assignee of the instant application. Applicants have failed to identified the source of the colloidal silica or silica in their inventive examples, and have also failed to provide any evidence to verify the presence (or absence) of colloidal silica or silica in the Fields'880 toner binder resin associated with the tradename SB77XL. Accordingly, the rejections set forth in paragraphs 11 and 12 stand.

14. The reference US 6,197,466 B1 (Fields'466), which is listed on the form PTO-1449 filed on Jan. 18, 2005, has an issue date that is prior to the filing date of the instant application. Accordingly, Fields'466 also qualifies as prior under 35 U.S.C. 102(a).

15. Claims 4, 17, 30, and 35 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,197,466 B1 (Fields'466), as evidenced by the ACS File registry number 60806-47-5, applicants' admission at page 22, lines 1-15, and in Table 3, of the instant specification, and US 5,709,075 (Yoerger).

Claims 4, 17, 30, and 35 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'466, as evidenced by the ACS File registry number 60806-47-5, applicants' admission at page 22, lines 1-15, and in Table 3, of the instant specification, and US 5,709,075 (Yoerger).

Fields'466 exemplifies a developer comprising a particular hard magnetic ferrite carrier and toner particles. The toner particles comprise 92.2 wt% of a styrene-acrylic copolymer, identified by the CAS #60806-47-5, produced by Eastman Kodak, 6.4 wt% of carbon black, and 1.4 wt% of a single charge control agent, an organo iron complex charge control agent associated with the tradename T77. The toner particles are surface treated with 0.15 wt% of hydrophobic silica associated with the tradename HDK 1303, obtained from Wacker Chemie. See Fields'466, col. 3, lines 15-35; col. 7, line 64, to col. 8, line 31; Table 2 at col. 4; and Table 8 at col. 9, example 5, two steps. The amounts of 92.2 wt%, 6.4 wt%, and 1.4 wt% were determined from the information provide at col. 3, lines 15-35. The CAS, i.e., ACS, file registry no. 60806-47-5, identifies the styrene-acrylic copolymer in Fields'466 as a styrene-butylacrylate-divinylbenzene copolymer. Divinylbenzene provides ethylenically unsaturated cross-linking sites. Thus, it appears

that the styrene-acrylic copolymer in Fields'466 is a crosslinked styrene-acrylate copolymer as recited in instant claim 30. Accordingly, the Fields'466 toner meets the compositional limitation recited in the instant claims.

Fields'466 does not report a 2 minute charge level and a 10 minute charge level for the toner particles when the toner is mixed with a particular carrier as recited in instant claim 30. However, after mixing the Fields'466 toner particles with the magnetic hard ferrite carrier for 2 minutes, the toner particles had a charge level of -15.6 μC/g. After mixing the Fields'466 toner particles with the magnetic hard ferrite carrier for 10 minutes, the toner particles had a charge level of -17.6 μC/g. The charge ratio at 2 minutes to the charge level at 10 minutes is 0.9, which is numerically within the range of "about 0.9 to about 1.1" recited in instant claim 30. Fields'466, col. 7, line 64, to col. 8, line 31; and Table 8 at col. 9, example 5, two steps.

According to the instant specification, when the toner particles meet the compositional limitations recited in the instant claims, the toner particles exhibit a 2 minute charge to mass value and 2'/10' MECCA charge ratio within the ranges recited instant claim 30, when the charge to mass ratios at 2 minutes and at 10 minutes are measured after combining the

toner with a hard magnetic carrier coated with a blend of polyvinylidene/polymethylmethacrylate as recited in instant claim 30. See Table 3 in the instant specification, examples 2-4. Furthermore, from the information provided in Table 3, the 2'/10' charge ratio and the 2 minute charge level determined by a MECCA device appear to depend on the type of carrier particle used. According to the instant specification, the 2 minute and 10 minute charge levels are determined for toner particles mixed with carrier particles. Instant specification, page 22, lines 1-15. As shown in Table 3 of the instant specification, developers comprising the same toner particles but different carriers exhibit different 2 minute MECCA charge levels and different 2'/10' MECCA charge ratios. See examples 2-4 in Table 3, where the values of the 2 minute charge level varies from -24 to -28 μC/g, the 10 minute charge value varies from -22 to -26 μC/g, and the charge ratio 2'/10' varies from 1.08 to 1.13. Yoerger also shows that developers comprising the same toner particles but different carriers exhibit different 3 minute and 10 minute MECCA charge levels. Yoerger shows that the MECCA charge levels depend not only on the carrier coating, but also on the type of carrier magnetic core and on the age of the carrier. See Yoerger, Tables 1

and 2, for example, examples 1 and 7 and comparative examples 1 and 7.

Accordingly, because the Fields'446 toner particles meet the compositional limitations recited in the instant claims, because the 2 minute and 10 minute charge levels determined by a MECCA device are dependent on the type of carrier used, and because the instant specification shows that toner particles that meet the compositional limitations recited in the instant claims when combined with a carrier as recited in instant claim 30 exhibit a 2 minute charge level and a charge ratio 2'/10' that meet the ranges recited in instant claim 30, it is reasonable to presume that the Fields'446 toner particles have a 2 minute charge level and a 2'/10' MECCA charge ratio when measured with the carrier recited in instant claim 30. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Applicants' arguments filed on Nov. 23, 2005, have been fully considered but they are not persuasive.

Applicants assert that neither Fields'446 nor Yoerger teaches or suggests the carrier recited in the instant claims. Applicants further assert that "[n]either reference indicates a two minute charge level of about -20 to about -30 μC/g" as recited in instant claim 30.

Applicants' assertions are not persuasive. Instant claim 30 is drawn to a toner, not to a two-component developer comprising a toner and a carrier. The claim does not require the presence of the carrier, but merely discloses that the toner property, the 2 minute charge level and the charge ratio 2'/10', is determined by mixing the toner with a carrier comprising a mixture of polyvinylidiene and polymethylmethacrylate. As discussed in the above rejection, the Fields'446 toner particles meet the compositional limitations recited in the instant claims. Thus, for the reasons discussed in the rejection above, it is reasonable to presume that the Fields'446 toner particles exhibit a 2 minute charging level and a 2'/10' MECCA charging ratio as recited in instant claim 30. There is no evidence on the present record to show otherwise. Accordingly, the rejection stands.

16. Claims 28 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Fields'880, alone, does not teach a developer comprising toner particles and a magnetic carrier as recited in instant claims 28 and 29.

Moreover, for the reasons discussed in the rejection under 35 U.S.C. 103(a) set forth in the office action mailed on Feb. 23, 2005, paragraph 13, it would have been obvious for a person having ordinary skill in the art to use a magnetic carrier as recited in instant claims 28 and 29 as the magnetic carrier in the developer disclosed by Fields'880. However, Fields'880 is not prior art under 35 U.S.C. 103(c) for the reasons discussed in the office action mailed on Aug. 19, 2005, paragraph 3.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (571) 273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD
Jan. 31, 2006

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